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ABSTRACT

This document discusses the University of Florence's experience and concepts as it developed the research to define a proposal for designing a new national school building code. Section 1 examines the current school building code and the Italian Reform Process in Education between 1960 and 2000. Section 2 details and explains the new school building code. (GR)

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**Section 1**
The Italian Reform Process

Section 2
The New School Building Code

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# Innovation and Standardization in School Building.

**A Proposal for the National Code in Italy.** *Section 1 of 2*

By Giuseppe Ridolfi, D.d.R,A.N.A.member

*Acting upon the request of the Law n °23/1996 and after the issue of the Law n °30/2000 on the reform of the Italian Public Education, the department "Tecnologie dell 'Architettura e Design "from the University of Florence was in charge of developing a research to define a proposal for the new national school building code. The following article reports an abstract of this experience and its inspiring concepts previewed by a brief reconstruction of the evolution of the Public Education Service in Italy.*

## I. THE PRESENT SCHOOL BUILDING CODE AND THE ITALIAN REFORM PROCESS IN EDUCATION.

1.1.The promulgation of the 1975 Building Code under the first reform period in Education.(1960-1975).

The current government Building Code in Italy, developed for planning and designing of public school facilities, dates from 1975 (D.M.18 December 1975).During the 70 's, the Italian government faced a critical issue; how to update the old codes defined under the Mussolini period and formulate a new Code, which applied to current concerns, issues and practices. This Building Code, based on educational models developed by John Dewey, Jean Piaget, and Jerome S. Bruner, arose from a grass roots movements, which explored pedagogic theories and practices during the 60 's and the first part of the 70 's. During this period, laboratory-schools, new curricula and open schools were broadly developed across the nation thanks to the initiative of teachers and the support of some local authorities.

This movement, and the pressure for a democratic reconsideration of the school, produced the arrival of some important national rules in the education sector. The main ones of these are:

- Law 820/1971 introduces full-time schooling;
- Law 447/1973 establishes the "Distretto Scolastico," a new bottom-up model for the administration of the school and where other public organizations of the communities entered as active and complementary partners of the school institution;
- Law 416-9/1974 introduces the "Decreti Delegati," in which teachers, non-teaching staff, parents and students are recognized as complementary and active subjects for the management of the school.

"For the first time, the idea of the school as a "learning continuum "linked to its territory and integrated with the physical resources of the communities became a

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consideration. The idea that the school building is not a conglomeration of boxes put in a line coupled with the consciousness that the building itself can also have a great effect on the development of a child 's sense of democracy became important aspects that influenced the Code."

These new educational reforms and government reforms were the basis for the 1975 Building Code and some of its more innovative concepts. For the first time, the idea of the school as a "learning continuum "linked to its territory and integrated with the physical resources of the communities became a consideration. The idea that the school building is not a conglomeration of boxes put in a line coupled with the consciousness that the building itself can also have a great effect on the development of a child 's sense of democracy became important aspects that influenced the Code.

**1.2.Problems with the 1975 Building Code and the Education System revision (1975-1980).**

The National Congress on Public Education, held in 1977, can be considered the beginning of a revision movement that developed a critical debate on the first reform experiences and a deep evaluation concerning their results.

Concepts like open-schools, permanent education, participatory education, and team-teaching underwent reconsideration and, as a result, were criticized. The main conclusion of this re-evaluation was a general recommendation to define an educational system more linked to the diverse conditions of the local and national contexts.

Because the 1975 Building Code reflected the past educational concepts, it underwent reconsideration. This reconsideration found that many aspects of it were difficult to realize in practice. High standard levels set by the code, found difficult application in many contexts where old buildings, for the most part located in historical contexts, were the main resources for schools. In addition, the 1975 Code strongly reflected the aims of Industrialization and the related process of Standardization in construction.

Dimensional space and ambient environmental standards were conceived for new schools yet no specifications were included about restoring, retrofitting or renewing old buildings. The Code worked well for the new buildings, but it remained an abstract idea in large part of the country where the urgency to achieve the basic requirements and the restraints of funds presented a difficult situation to manage.

Another problem for the implementation of the 1975 Code was that it had been born during a period which held an idealistic and centralist vision of the school. This vision maintained that the school 's role was to solve and respond to the diverse needs within the community. Gymnasiums, theatres, libraries, day care and social security centers, as well other public spaces

were considered integral parts of school facilities programs. Italy developed a strong building program, between the second half of the 70 's and the first half of the 80s,to improve the school facility system. Presently, represents the last large addition of national real estate for educational purposes.

However, because planners did not foresee the amount of construction costs and the extra staff needed for the management, many of these programs failed in the following years.

Dating from this period, the construction activity has slowed down and no large-scale programs have developed. The construction of new school buildings has been isolated events during the second part of the 80 's and the whole of the 90 's. The main focus of this period has been maintenance and retrofitting, which occupied the technical offices of the real estate school system without the support of fitted guidelines or coordinated plans.

**1.3.Toward the autonomy of the School. Transfer of power from central to local authorities.**

During the mid-70 's, Italy began the process to transfer the public administration of different strategic areas like health, transportation, and construction from central to local authorities. In the Education sector the DPR 616/1977 was the first Public Act that transferred designing professional curricula into the hands of the Regional Authority (Regioni) and socio-educational assistance services to sustain education rights to the Community Authority (Comuni). Precise roles for the different levels of government in education were established.

These roles are:

- the Central Authority is in charge of institutional education and curricula;
- the Regional Authority is in charge of professional education;
- the Community Authority is in charge of social support for education.

Although this new system reflected the goal for a more democratic education policy, in its early application it was limited by bureaucratic interpretations not able to establish an effective link between schools and local communities. This separation between different roles was also going to create obstacles for a full integration between institutional education, professional education and social support for education.

**1.4.Toward the autonomy of the School. Polycentric education and elements for autonomy (1980-1990).**

The decentralization process of the public administration and the debate for a more realistic vision of schools created the foundations for the introduction of new subjects to play an active role in education. Starting from the second half of the 80 's professional educators, private schools and the entertainment market entered the education system breaking down the central authority of the public school. These phenomena created an idea

of the student as a 'client 'and education as a service valuable under efficiency/effectiveness parameters. Private corporate management techniques entered the Public Administration and concepts such as project management, total quality and user requirements satisfaction became a critical topic in the public education reform.

The first step of the decentralization process was the Law 142/1990 established in 1990.This dates the beginning of a long process that assigns full administrative authority to local communities and single schools. This law articulates exactly where the main principles of autonomy were to be designated. The model, articulated by the law, was conceived as a gradual decision-making process with different levels of authority and responsibility.

At the first level is the State; its functions are to coordinate and to promote equal education in the nation. At the second level are the Regions; their functions are to manage specific educational programs according to the national directives and to evaluate their results. At the third level are the single schools and the local districts; their functions are to promote specific educational programs and different forms of experimentation including partnerships with other public or private subjects.

The model supported many experiences involving a wide number of schools, subjects and communities. At the end of the 1990 's, according to the 33 °statistical research developed in 1999 by Censis,88%of the schools had been involved in different kinds of educational project experiments. A large part of the educational experimentation concerned the introduction of information technology. Since 1985 special financing programs were passed by the national government to support:

- introducing computer classes in education curricula, (PN1/1985);
- using media technology for teaching (PN2/1991);
- computer buying (C.M.282/97);
- computer trainings for teachers (C.M.425/97);
- Internet access (C.M.196/98);
- digital satellite antenna access (C.M.430/98).

However, the most important national program to support school experimentation was the "Programma Di Sviluppo delle Tecnologie Didattiche "passed for the realization of alternative and innovative curricula based on new media technologies. Funded by this program, many schools were involved in different pilot education projects. These projects are shown in the following table.

| *Programma di Sviluppo delle Tecnologie Didattiche* Pilot Projects | |
|---|---|
| *MULTILAB* | Networks among schools and research centers |
| *RETE* | Network tutoring to support the study of Italian as a second language |
| *POLARIS* | Remote training on media education for teachers |
| *TELECOMUNICANDO* | Experimentation of teleconferences and wide band communications |
| *ITALIA E LE SUE ISOLE* | Development of World Wide Web and e-mail among students |
| *MUSE* | Introduction of media tools and computers for music education |
| *PROGETTO SCUOLA MEDIA* | Permanent education on new technologies for primary school teachers |
| *TELEDIDATTICA PER LUNGODEGENTI* | Remote education for hospitalized students |
| MILIA | Remote training focused on Italian language teaching in South America |
| DEURE | Information Data Base to promote the participation of teachers in UE programs |
| GLOBE | Participation of some schools in international programs on world sustainability |

**1.5.School autonomy in action.**
The results of these experiments led to the Law 59/1997,well known as the "Legge sulla Autonomia." Subsequent and related laws were Law 440/1997,the D. Lgs 112/1998 and the D.P.R. 275/1999.These public Acts formalize the autonomy of every single school by the establishment of the "Piano dell 'Offerta Formativa" (The Educational Proposal Plan) where a single school, according to the national guidelines, can define its own specific curricula.

> "Article 21 of the Law 59/1997 allows individual school to integrate the national curricula with their own resources or with the support of local communities ... schools can realize partnerships, joint ventures, agreements with public organizations or other schools, with private business corporations or non-profit organizations as well. For the first time Universities, research centers and banks are also included as partners to improve the educational mission of the school."

In detail, the article 21 of the Law 59/1997 allows individual school to integrate the national curricula with their own resources or with the support of local communities, Provincie and Regioni. The integration can concern specific goals like:

- adult education;
- prevention for premature interruption of obligatory schooling;
- education technology;
- intensive use of the school facilities;
- links with professional world.

In order to fulfill these goals, specific instruments and modalities were arranged. The law establishes that schools can realize partnerships, joint ventures, agreements with public organizations or other schools, with private business corporations or non-profit organizations as well. For the first time Universities, research centers and banks are also included as partners to improve the educational mission of the school.

After a year, the government passed the related D.Lgs 112/1998 that defined roles for the integration of national curricula. In detail, the article 138 transfers to the Regioni the following roles:

- to design the integration between the institutional curricula and professional opportunities;
- to program the regional school facilities;
- to plan the territory as different educational areas.

The article 139 assigns the Provincie the following functions:

- to reorganize and to plan their school facilities, in accordance with the regional program and plans (new buildings, restoring or closing schools);
- to support schooling for disadvantaged students;
- to program the use of school facilities;
- to control the activities of the Public Education administration.

The same article assigns to the Comuni the following functions:

- to define adult education programs;
- to integrate schooling and business;
- to support schooling for disadvantaged students.

Other important proposals that arise from the new laws are opportunities to expand education out of the school and to reinforce the concept of 'learning environment '. These opportunities are provided by the Programma di Sviluppo di Comunità and the Piano Integrato d 'Area .

> "It offers the opportunity to utilize school facility projects to improve quarters and urban environments. ... This project allowed children to work with planners and architects in school designing and programming."

The former is a program opportunity very closely related to the experiences developed in Chicago during the 1920 's and to other later European

initiatives like the Educational Priority Area from the UK, and the Zones d 'Education Prioritaries developed in France. It offers the opportunity to utilize school facility projects to improve quarters and urban environments. One of the experiences that utilized the Programma di Sviluppo di Comunità is the "Città dei Bambini." The "Città dei Bambini" is a project connected to Eurocities, to the UNICEF program "Bambino Urbano "and the national project "Città Sostenibili" promoted by the Public Environment Department. This project allowed children to work with planners and architects in school designing and programming.

The Piano Integrato d 'Area is an instrument to allow a coordinated programming action in wider areas like districts or regions. This instrument defines the procedures to establish partnerships between different subjects that operate in different fields related to education. Presently, this instrument is used to realize some information services for school orientation, job orientation and professional training. From 1994 to1998,the city of Florence inside the project "Leva Giovanile," used this opportunity to employ students as tutors for younger children.

**1.5.The new education system and new requirements for school facilities.**

At the end of the year 2000,the Government passed the Law 30/2000 that arranges all these reforms, experiences and experimentations to define the new asset for the Public Education. The main changes, that are also developed to conform the system to the European system, are:

- the introduction of the credits to allow the designing of personal curricula;
- the obligatory achievement of credits from the professional world as a part of curricula;
- the reorganization of the educational cycles.

The reorganization of the educational cycles is the most relevant modification that will to produce a great impact on the whole educational system. According to this change the new cycles are:

1. Pre-school, for children up until 5 years old;
2. Primary School in 7 years, for children 6-13 years old;
3. Secondary School in 5 years, also divided in two parts: the first one (ages 13-15)provides two obligatory years and the second one (ages 15-18)three facultative years.

However, the education system requires children have to attend schooling until the age of 18 years introducing a compulsory professional training for students that decide to stop institutional studies after the first three years of Secondary School. In addition, the training frequency certificate will give the students credits to reenter school.

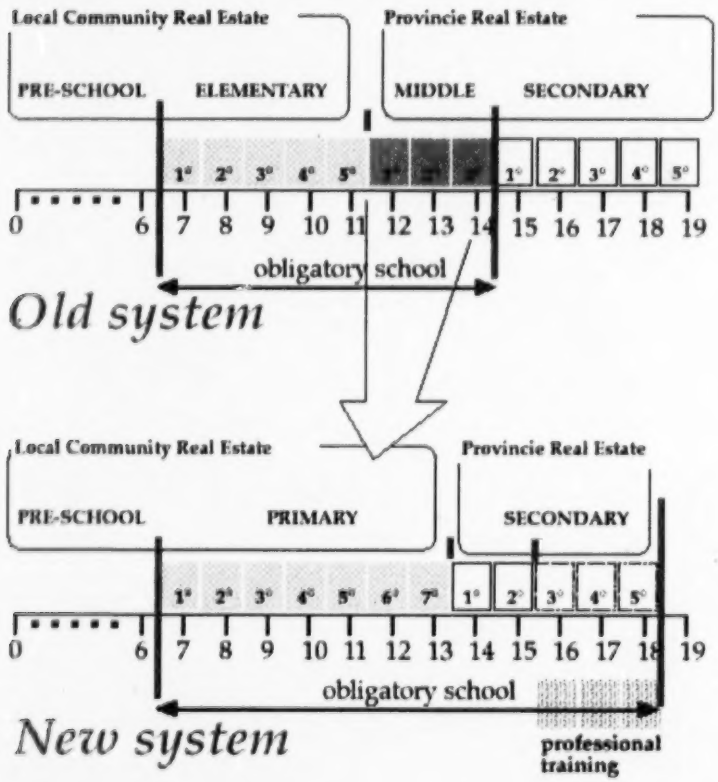
The new cycles will impact the school system since the Middle School, included in the old educational system, is cancelled. The Middle School,

that involving children between ages 11-13 years old will be integrated with the old Elementary School (ages 6-11)to create the new Primary School. One of the main problems of this reform is related to the real estate. In fact, with this integration the old building can 't accommodate seven classes: the Elementary nor the Middle School buildings can fit these requirements.

The integration, also, introduces new problems in school designing that architects and planners should take in high consideration. One of the main concerns is related to the wider age range that the new system introduces into the primary school. More flexibility in designing spaces, furniture and environment should be evaluated, as well as all the features that reduce the potential for conflict between children of different age ranges.

Another issue generated by the new system concerns the responsibility of the real estate administration and its reorganization. Presently, Pre-Schools and Elementary Schools are under the local community administration; instead, the old Middle Schools are a real estate property of the Provincie. How the transfer of the real estate will be acted and who will be in charge of this reorganization is still a difficult question that the local and central governments are trying to solve.

*Reorganization of Educational Cycles in the Public Italian System*


Local Community Real Estate
Provincie Real Estate
PRE-SCHOOL
ELEMENTARY
MIDDLE
SECONDARY
1° 2° 3° 4° 5° 1° 2° 3° 4° 5°
0 6 7 8 9 10 11 12 13 14 15 16 17 18 19
obligatory school
Old system
Local Community Real Estate
Provincie Real Estate
PRE-SCHOOL
PRIMARY
SECONDARY
1° 2° 3° 4° 5° 6° 7° 1° 2° 3° 4° 5°
0 6 7 8 9 10 11 12 13 14 15 16 17 18 19
obligatory school
New system
professional training

Autonomy and the opportunity for each school to act as juridical entity able to sell/buy services and to cooperate with other subjects is another



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repercussion of the reform. It will create a great impact on the administrative area of the schools and, a s a consequence, more functions and more spaces will need to fit these requirements. Different hypothesis about the concentrations of the administrative functions or about the realization of shared resources are presently under discussion.

Other new aspects, that planners and designers have to consider, are some requirements that educators, public authorities and citizens are now recognizing as strategic goals to achieve in planning and designing new schools. These goals concern the citizens 'participation in realizing school as a center of the community; the access of the community members to the school facilities and resources, the incorporation of spaces, furniture and new technologies with multiple uses and, above all, the design of "learning environments "able to fit future changes and other needs we do not yet know.

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The Italian Reform Process

**Section 2**
The New School Building Code

# Innovation and Standardization in School Building.

*Section 2*

## II. THE NEW SCHOOL BUILDING CODE.

### 2.1.Criteria and references for the new School Building Code: innovation versus standardization.

Due to the Reform process developed in Education during the last 25 years, the necessity to set up new principles and requirements for planning and designing school facilities became critically evident in 1996.In this year, the Italian Government passed the Law 23/1996 in which a new building code for school buildings and facilities was declared as the strategic goal to achieve for the next years. As anticipated by this law, the new code should have to provide the minimal and the maximum standards to rule the restoring, the retrofitting and the new construction of the public school buildings across the whole national territory. This directive revealed the necessity to define some references for the existing real estate that the old code didn't consider. The introduction of maximum standards it also revealed the necessity to define a limit to the expenditures and to insure the same quality in different contexts of the nation.

Four years later, the department "Tecnologie dell 'Architettura e Design P.Spadolini" of the University of Florence was in charge of a research to provide a proposal to update the 1975 School Building Code. For this commission the research team analyzed the concept of standardization and the performance requirement approach. A reconstruction of experiences and tendencies in education was investigated and an examination of the old building code was initiated.

Since the beginning, the main question for the proposal of the Code concerned the concept of standardization, its interpretation and how to define specifications with a long-life validity in a context where fast changes, decentralization of the decisional power, globalization and multidimensional opportunity for education represented the main features of the present situation.

> "The subsequent discussion focused on the necessity to discard the old and static idea of the building regulation founded on prescriptive-based codes and predetermined square footage requirements. The key concept that the research-team developed was that the new building code should allow flexibility, creativity and innovation ..."

The subsequent discussion focused on the necessity to discard the old and static idea of the building regulation founded on prescriptive-based codes and predetermined square footage requirements. The key concept that the research-team developed was that the new building code should allow flexibility, creativity and innovation while simultaneously providing general control concerning the results and the satisfaction of the national requirements.

To fulfill this goal the team started to work approaching the code under the performance-based standardization. With this approach, standards were designed as guidelines and criteria to support the planning activity of the local promoters through all stages of the construction process rather than generic and object-oriented specifications.

According to recent interpretations and applications of the performance-based standardization, a gradual decisional system was designed assigning specific roles, responsibilities, and procedures for collecting information and validating/approving the subsequent action in planning and designing. A coordinating function is reserved to the central authorities and prescriptive specifications are limited only for primary requirements concerning health, security and safety of the occupancy. For all the other specifications, the proposal assigned more duties and decisional autonomy to single schools and local communities. They will have the possibility to identify their needs, to define creative and alternative interpretations and to evaluate the results through the whole process

**2.2.Criteria and references for the new School Building Code: the Italian Construction Process**

The advanced phase of the research investigated how to transform these goals into effective actions. A task was assigned to explore the opportunities offered by the Italian laws that set the Public Construction Process.

Presently, the Italian rules on Public Construction Process are under revision to align them with the European Directive. This was passed by the EU government to support free competition among the Community 's member countries. To fulfill
the Community requirements, a large part of the law review concerns the programming phase, tender procedures and, above all, the implementation of Quality Assurance. These innovations represented very useful references to support the proposal for the new School Building Code. The most important ones that the research singled out were:

- the autonomy of the local public promoter to decide and to manage the construction project investment;
- the Studio di Fattibilità ,the first compulsory document to demonstrate the convenience and technical feasibility of the project;
- the Documento Preliminare della Progettazione ,the official brief where the public promoter defines the budget, the project organization, the program and the design specifications;
- the Responsabile della Progettazione ,that identifies the role of the project manager as a function always related to the public promoter;
- the Project Financing, to support public projects co-founded by private investors.

**2.3.Criteria and references for the new School Building Code: derogations and capital ventures to enhance Quality.**

Using the opportunities offered by the Italian law concerning the construction process, the proposal for a new School Building Code designed a model where both the decision-making autonomy of local communities or schools and the control of the central authority are integrated. To insure this goal, prescriptive specifications are limited to general aspects and primary requirements like health, safety and security. Performance specifications are preferred and standards for old and new buildings (minimum and maximum) are defined in form
of recommendations. The specifications are more oriented towards procedural aspects to allow regional authorities and local promoters to design their own standard specifications. The proposal asked the Regioni to define their local code and the Responsabile di Procedimento to include specific requirements inside the Documento Preliminare della Progettazione.

Derogations are also allowed for Regions, local authorities or schools when some specific circumstances occur and a full demonstration should be provided inside the Studio di Fattibilità. These circumstances are:

- restoring, adding or retrofitting old buildings;
- critical geographical and socio-economic conditions;
- insufficient level of the educational community facilities.

The proposal permits derogations also in "normal "circumstances to realize facilities or standards that exceed the maximum levels defined by the national code. However, local promoters and/or Regioni have to demonstrate the capacity to cover extra costs. An opportunity to enhance the budget allocation is offered by Project Financing that the research-team introduced, as a new way to integrate funds for school projects exceeding the national standards. In order to rule capital ventures between schools and private investors, the proposal defines specific procedures and restrictions. The main of these concerns the preservation of the educational purpose, the agreement for providing ceiling price educational services and the priority for the realization of media laboratories.

**2.4.The specifications of the National School Building Code**

According to the goals and the aims of the research, the proposal for the new School Building Code includes references to help the Regioni and the Responsabile di Procedimento, whom are asked to define: the Regional School Building Code, the Studio di Fattibilità and the Documento Preliminare della Progettazione .These references refer to:

- site requirements and other recommendations to evaluate useful integration with community resources;
- requirements of the school buildings with specific references to the three cycles of schooling (Pre-School, Primary and Secondary);
- specific roles and responsibility of the people involved in programming and developing the school building project;
- specific contents on the technical documentations produced during the process;
- methods and specifications for the design evaluation and approvals.

> "The school location offers to increase the quality of urban environments, to re-store town 's old quarters or degraded boroughs and, in general, to assign the school a significant relevance as a center of the community"

**2.4.1 Site and building location.**
In detail, the references concerning the site recommend explorations about the socio-cultural features and investigations about climatic and geo-morphological factors. The proposal also uses the building location requirements to define a list of top priorities to access the public financing programs. Some of these requirements are related to opportunities that the school location offers to increase the quality of urban environments, to re-store town 's old quarters or degraded boroughs and, in general, to assign the school a significant relevance as a center of the community.

> "Specifications are provided to evaluate general aspects like security, way-finding, environmental sustainability, flexibility and integration with the context. ... no functional or educational models are defined as prescriptions and every solution is demanded to the individual project."

**2.4.2.Building specification.**
The proposal also included specifications to evaluate old buildings and to design new spaces for schools. Specifications are provided to evaluate general aspects like security, way-finding, environmental sustainability, flexibility and integration with the context. To achieve the best user satisfaction, the proposal asks a planning process able to involve the widest range of stakeholders.

In fact, no functional or educational models are defined as prescriptions and every solution is demanded to the individual project. To support this process, the proposal indicates some guidelines as to define user profiles. The guidelines are broadly influenced by Universal Design concepts. The classic user profiles (students, teachers, non teaching staff, parents, citizens, volunteers, mentors, visitors) were reviewed and integrated with other aspects like: age, cultural and religion identity, physic-physical attitude, socio-economic provenience, etc.

The solution for the information technology system shows this philosophy as well. No configurations or technologies are identified but it is prescribed a value-analysis to verify the effectiveness of the solution in term of total cost and its impact on users. The same approach was adopted for dimensional specifications where the minimum and maximum standards are only a range-reference to guide the more detailed specifications of the Regional Code and the Documento Preliminare della Progettazione. For this task, the proposal supplied distinct parametric factors, for new and old buildings, that the regional authorities and the Responsabile di Procedimento could use to define the amount of space the school needs. To define the dimensional factors, the research team used criteria that support sharing resources between schools and local community, networks between schools and, above all, the size reduction of the school to promote personal relationships, sense of community and a safer

environment.

> "To leave creativity in planning and designing, as well as in defining the regional standards, the national code shouldn't identify designated spaces or activity rooms for one particular set of functions. A new pattern approach defined the building as a "System of domains "directly related to the different educational functions."

To leave creativity in planning and designing, as well as in defining the regional standards, the national code shouldn't identify designated spaces or activity rooms for one particular set of functions. A new pattern approach defined the building as a "System of domains "directly related to the different educational functions. In the following tables are shown these "Educational Domains ".

The requirements of these domains concerned general education goals and functions related to the administration and management of the school as well. Their achievement can be realized providing different shapes or different numbers of rooms inside the minimum and maximum amount of space the National Code should prescribe.

| "School Administrative Domains " | | | |
|---|---|---|---|
| ADMINISTRATION &MANAGEMENT | SERVICE SCHOOL | EDUCATION PLANNING & CURRICULA | CLEANING, MAINTENANCE & SECURITY |
| | | | |

| "School Educational Domains" | | |
|---|---|---|
| PRE-SCHOOL | SECONDARY SCHOOL | PRIMARY SCHOOL |
| SCHOOL/COMMUNITY INTERFACE | SCHOOL/COMMUNITY INTERFACE | SCHOOL/COMMUNITY INTERFACE |
| NATURE & ENVIRONMENT | NATURE & ENVIRONMENT | |
| LANGUAGE & PROBLEM SOLVING | TRADITIONAL TEACHING | TRADITIONAL TEACHING |
| RELAXATION | EXPERIMENTAL LEARNING | PROFESSIONAL ORIENTED TEACHING |
| ARTISTIC EXPRESSION | MUSIC &THEATRE | |
| | MEDIA EDUCATION & COMMUNICATION | MEDIA EDUCATION & COMMUNICATION |
| PLAY &PHYSICAL ACTIVITY | PLAY &GYM | SPORT |
| HEALTH &BODY LEARNING | HEALTH & BODY CARE | |
| FOOD CULTURE &NUTRITION | FOOD CULTURE &NUTRITION | |

**2.4.3.Procedural Specifications.**
An important part of the proposal for the new School Building Code concerned procedural specifications. The research focused on some specific aspects mainly related to the attribution of roles and responsibilities to the different subjects involved in planning, designing and managing the school facilities realization. According to these procedural specifications, the Public has the following roles and related responsibilities:

- Regions are in charge of the designing their specific school building code;
- Local Communities (represented by the Dirigente della Programmazione Triennale )are in charge of the coordination of the feasibility studies (Studi di Fattibilità) developed by the different communities;
- Public project manager (Responsabile di Procedimento) nare della Progettazione )and the Quality Management of the whole process.

Important prescription assigns to the Responsabile di Procedimento the duty for a direct participation of the users and other stakeholders since the beginning phases of the planning. Stakeholders composition, time and resources to be allocated should be defined inside the Documento Preliminare della Progettazione.

Other specifications are defined to regulate Design Team. The proposal suggests an integration of the national code for the Italian Public Construction Process with some specific aspects concerning school design. The National School Building Code should detail the composition of the Design Team, which should be formed as an interdisciplinary group incorporating experts in education,

universal design, environment, new technology and media communication.

**2.4.4.Technical Document Specifications.**
Other specifications concern the technical documentation since the feasibility study. The Studio di Fattibilità should include an explicit evaluation of the site showing:

- how the users can access the site safely and easily;
- how the educational resources can be shared with the community;
- how the site location fulfill the education facilities program of the community;
- how the playground gives opportunities for a full "learning environment."

The Documento Preliminare della Progettazione should include explicit criteria to select the Design Team and how to control the technical documents produced during the designing process. For this matter the research singled out some primary aspects that the Responsabile di Procedimento or the Regioni could integrate in relation to their needs and goals. The primary aspects the technical documents should contain and represent are synthesized in the table below.

| Contents of the technical documents - Check list | |
|---|---|
| ON THE URBAN SCALE | ON THE BUILDING SCALE |
| Relationship with environmental, historic and natural context | Environmental sustainability of the building solutions |
| Relationship with other schools or other education facilities | Opportunity for future functional modifications |
| Relationship with the urban plan, rules or other kind of prescriptions concerning the territory | Integration with the playground |
| How the building enhances the town or the city 's borough | Full access and utilization of the building and the educational facilities for all users |
| Relationship with housing, shops, parks and parking | Solutions to enhance the way-finding inside and outside |
| Public transportation maps and the illustration of other structures related to mobility | Connection between the building lay out and the educational models adopted by the school |
| Opportunity offered by the play-ground as a learning environment | Connection between the furniture layout and the educational activity |
| Localization of the public transportation stops and the route toward the school | Representation and distinction between fixed and flexible elements of the building |
| School access with all the solutions to | Way-finding sign design adopted and |

| | |
|---|---|
| guarantee safety, security and the con-<br>temporary use of different users | materials and colors used for corridors, floors and walls |
| Opportunity for future additions | Information about the materials adopted concerning their health and recycling |

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